REMARKS

The Office Action mailed December 19, 2008 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 10-20 are now pending in this application. Claims 1-9 have been cancelled. Claims 10-20 stand rejected.

The rejection of Claims 14-20 under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention is respectfully traversed. The Examiner alleges at page 2 of the instant Office Action that Claim 14 is confusing and indefinite since it is not clear how the amount of water in the next dishwashing cycle is determined. Claim 14 has been amended to recite "determine a second amount of water to deliver to the dishwasher for a cycle subsequent the at least one underfill condition using the first amount of water and the first total amount of additional water." Applicants respectfully submit that Claim 14, as amended, particularly points out and distinctly claims the subject matter which Applicants regard as the invention.

Accordingly, Applicants respectfully submit that Claim 14 as amended, satisfies the requirements of Section 112, second paragraph.

Claims 15-20 depend, directly or indirectly, from independent Claim 14. When the recitations of Claims 15-20 are combined with the recitations of Claims 14, Applicants respectfully submit that Claims 15-20 likewise satisfy the requirements of Section 112, second paragraph.

For at least the reasons set forth above, Applicants respectfully request that the Section 112 rejection of Claims 14-20 be withdrawn.

The rejection of Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,823,878 to Gadini (hereinafter referred to as "Gadini") in view of U.S. Pat. No. 5,878,603 to Warren, Jr. et al. (hereinafter referred to as "Warren") and U.S. Pat. No. 4,120,032 to Mirdadian (hereinafter referred to as "Mirdadian") is respectfully traversed.

Gadini describes a control system for softening water and channeling the water to a dishwasher. The dishwasher includes a tub (1) and an inlet duct (8) that is in flow communication with a main water supply and the tub (1). A decalcification system (10) is coupled between the inlet duct (8) and the tub (1). The decalcification system (10) includes water-softening resins (R) and a collecting tank (17). The water is channeled from the inlet duct (8) to the tank (17) and the resins (R). Softened water flows from the resins (R) into the tub (1). To regenerate the resins (R), valves (9, 11, 13, 15, 18, and/or 20) control the flow of water from the tank (17) through the resins (R) while preventing water from being discharged into the tub (1). After regeneration, the valves (9, 11, 13, 15, 18, and/or 20) refill the tank (17) and allow softened water to be discharged within the tub (1). A control system controls operation of the tub (1), the tank (17), the decalcification system (10), and the valves (9, 11, 13, 15, 18, and 20). A standard turbine flow meter may be used to meter a flow of water within the tub (1).

Further, a metering tank (26) may be positioned downstream from an air break (AB) in the inlet duct (8). The metering tank (26) meters the flow of water to the tub (1) through a series of discharges into the collection tank (17) and/or the decalcification system (10). A flow sensor (27), such as a turbine flow-rate sensor, is coupled to the inlet duct (8) upstream from the air break (AB). To supply and discharge the tank (26), a predetermined amount of water required for filling the tanks (17 and 26), the ducts (8, 19, and 12), and the decalcification system (10) is properly coded within suitable memory means of the control system. The amount of water is detected by the flow sensor (27) and is output as a gradually increasing value signal. The control system compares the increasing signal to the predetermined amount stored therein. When the two values coincide, the control system closes the valves (9 and 20).

Gadini further describes storing in a control system a predetermined amount of water initially required to fill the tanks (17 and 26), the ducts (8, 19, and 12), and the decalcification system (10). A second water quantity is also stored in the control system. The second water quantity is equal to a difference between a total amount of water to be supplied to the tub (1) during a wash cycle and the predetermined amount of water initially required. The second water quantity is used to refill the metering tank (26) after water has been discharged into the tub (1) from the metering tank (26). The metering tank (26) is serially refilled and discharged until the total amount of water required for a wash cycle has been supplied to the tub (1). As

such, the second water quantity corresponds to the same wash cycle to which the predetermined amount of water initially required corresponds. Accordingly, Gadini does not describe or suggest varying a quantity of water for a next use of the dishwasher based on at least one prior water usage.

Warren describes a quiet fill water system for a washing machine (110). The washing machine (110) includes a washing tub (18) having an entry port (32) disposed within an outer wall (20), a valve (12) having a water inlet (22) and a water outlet (24), and a water reservoir (58) coupled to the outer wall (20). The water reservoir (58) includes a tube entry port (64), a cup-shaped body portion (60), and a water flow port (62). The water flow port (62) is mated with the outer wall entry port (32) to provide fluid communication between the water reservoir (58) and the washing tub (18). The washing machine (110) also includes a capillary tube (50) having a first end (52), a second end (56), and a tip portion (66). The first end (52) is coupled to the water outlet (24) of the valve (12), and the second end (56) is positioned within the tube entry port (64) such that the tip portion (66) is within the body portion (60) of the water reservoir (58) at a lower position relative to the water flow port (62). Such configuration forms a quiescent reservoir (70) of water during a fill period to decrease the level of noise of the fill period. Notably, Warren does not describe or suggest varying a quantity of water for a next use of the dishwasher based on at least one prior water usage.

Mirdadian describes a system that employs flowmeters to measure a fluid flow rate through a metered flowline and transducers to measure a temperature of the fluid. The flowmeters generate a series of pulses at a frequency which is representative of a measured volume of fluid. An output device counts the pulses to determine a total volume of the fluid. A compensating totalizer system (10) measures a volume of a fluid flowing through a flowline (11). The system (10) standardizes the volume measurement to a selected temperature and corrects the measurement for abnormalities. The system (10) includes a flowmeter (12), which may be a turbine meter, a positive displacement meter, or any other suitable metering or measuring device. Further, the flowmeter (12) is preferably of the type that generates an electrical square wave pulse representative of the passage of a known incremental volume of fluid through the flowline (11). The flowmeter (12) outputs a square wave pulse train to a temperature multiplier (14). The multiplier (14) multiplies the flowmeter pulse train signal with a binary-coded-decimal change in temperature value (BCD ΔT) value, and a resulting output signal from the multiplier (14) is a digital, temperature-

compensated, square wave pulse train. Notably, Mirdadian does not describe or suggest varying a quantity of water for a next use of the dishwasher based on at least one prior water usage.

Claim 10 recites a dishwasher including "a wash chamber; a water supply line in flow communication with said wash chamber, said water supply line having a first diameter; a valve configured to deliver water from said water supply line into said wash chamber; a turbine ratemeter in flow communication with said valve, said turbine ratemeter configured to meter water flow through said valve and generate a signal comprising a plurality of square wave pulses representing a quantity of water flow through said valve, each pulse of said plurality of square wave pulses representing a unit quantity of water; a restrictor tube in flow communication with said turbine ratemeter, said restrictor tube having a second diameter smaller than said first diameter; and a controller in signal communication with said turbine ratemeter, said controller configured to: open said valve; receive the generated signal from said turbine ratemeter; close said valve when a predetermined number of pulses have been received from said turbine ratemeter such that a predetermined quantity of water is supplied through said valve; and vary the quantity of water for a next use of the dishwasher based on at least one prior water usage."

No combination of Gadini, Warren, and Mirdadian describes or suggests a dishwasher as recited in Claim 10. More specifically, no combination of Gadini, Warren, and Mirdadian describes or suggests a dishwasher that includes a controller that varies a quantity of water for a next use of the dishwasher based on at least one prior water usage. Rather, in contrast to the present invention, Gadini describes storing a predetermined amount of water initially required to fill components of a washing machine and storing a second water quantity corresponding to the same wash cycle to which the predetermined amount of water initially required corresponds, Warren describes a capillary tube having a first end coupled to a water outlet of a valve and having a tip portion within a cup-shaped body portion of a water reservoir such that a quiescent reservoir of water is formed within the body portion, and Mirdadian describes a flowmeter that generates an electrical square wave pulse representative of the passage of a known incremental volume of fluid through a flowline.

Accordingly, for at least the reasons set forth above, Claim 10 is submitted to be patentable over Gadini in view of Warren and Mirdadian.

For at least reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 10 be withdrawn.

The rejection of Claims 11-20 under 35 U.S.C. § 103(a) as being unpatentable over Gadini in view of U.S. Patent No. 5,330,580 to Whipple, III et al. (hereinafter referred to as "Whipple"), Warren, and Mirdadian is respectfully traversed.

Gadini, Warren, and Mirdadian are described above.

Whipple describes a dishwasher (10) that includes a device (60) having a sensor for detecting power consumption surges of a pump motor (75) as a frame (20) receives water channeled from a water source through a valve (30). A pump (70) including the pump motor (75) supplies water to the frame (20). The power consumption surges are generated by cavitation within the water, which indicates that less than a sufficient amount of water has been received by the frame (20) for a particular wash cycle. The device (60) uses a controller (200) to control the valve (30) to channel an amount of additional water through the valve (30) such that the cavitation is reduced. The cavitation of the water and the power consumption of the pump motor (75) are reduced as the frame (20) receives an amount of water sufficient for the wash cycle. Notably, Whipple does not describe or suggest varying the quantity of water for a next use of the dishwasher based on at least one prior water usage.

Claims 11-13 depend from independent Claim 10, which recites a dishwasher including "a wash chamber; a water supply line in flow communication with said wash chamber, said water supply line having a first diameter; a valve configured to deliver water from said water supply line into said wash chamber; a turbine ratemeter in flow communication with said valve, said turbine ratemeter configured to meter water flow through said valve and generate a signal comprising a plurality of square wave pulses representing a quantity of water flow through said valve, each pulse of said plurality of square wave pulses representing a unit quantity of water; a restrictor tube in flow communication with said turbine ratemeter, said restrictor tube having a second diameter smaller than said first diameter; and a controller in signal communication with said turbine ratemeter, said controller configured to: open said valve; receive the generated signal from said turbine ratemeter; close said valve when a predetermined number of pulses have been received from said turbine ratemeter such that a predetermined quantity of water is supplied

through said valve; and vary the quantity of water for a next use of the dishwasher based on at least one prior water usage."

No combination of Gadini, Whipple, Warren and Mirdadian describes or suggests a dishwasher as recited in Claim 10. More specifically, no combination of Gadini, Whipple, Warren and Mirdadian describes or suggests a dishwasher that includes a controller that varies a quantity of water for a next use of the dishwasher based on at least one prior water usage. Rather, in contrast to the present invention, Gadini describes storing a predetermined amount of water initially required to fill components of a washing machine and storing a second water quantity corresponding to the same wash cycle to which the predetermined amount of water initially required corresponds, Whipple describes sensing cavitation in a pump motor and controlling a valve to supply an amount of additional water to a dishwasher to reduce the cavitation, Warren describes a capillary tube having a first end coupled to a water outlet of a valve and having a tip portion within a cup-shaped body portion of a water reservoir such that a quiescent reservoir of water is formed within the body portion, and Mirdadian describes a flowmeter that generates an electrical square wave pulse representative of the passage of a known incremental volume of fluid through a flowline.

Accordingly, for at least the reasons set forth above, Claim 10 is respectfully submitted to be patentable over Gadini in view of Whipple, Warren, and Mirdadian.

When the recitations of Claims 11-13 are considered in combination with the recitations of Claim 10, Applicants submit that Claims 11-13 likewise are patentable over Gadini in view of Whipple, Warren, and Mirdadian.

Claim 14 recites a dishwasher including "a wash chamber; a water supply line in flow communication with said wash chamber, said water supply line having a first diameter; a valve and a turbine ratemeter positioned to deliver a metered amount of water into said wash chamber, said turbine ratemeter generating square wave pulses each representing a predetermined quantity of water; a restrictor tube in flow communication with said turbine ratemeter, said restrictor tube having a second diameter smaller than said first diameter; and a controller coupled to said valve and said turbine ratemeter, said controller configured to: deliver a first amount of water to the dishwasher for a first dishwashing cycle; monitor at least one operation of the dishwasher during the first dishwashing cycle to detect an underfill condition; add additional water to the dishwasher upon detecting at least one underfill

condition during the first dishwashing cycle; measure a first total amount of additional water by counting a first plurality of square wave pulses generated by said turbine ratemeter during addition of the additional water for the first dishwashing cycle; retain the first total amount of additional water added during the first dishwashing cycle; and determine a second amount of water to deliver to the dishwasher for a cycle subsequent the at least one underfill condition based on the first amount of water and the first total amount of additional water."

No combination of Gadini, Whipple, Warren and Mirdadian describes or suggests a dishwasher as recited in Claim 14. More specifically, no combination of Gadini, Whipple, Warren and Mirdadian describes or suggests a dishwasher that includes a controller configured determine a second amount of water to deliver to the dishwasher for a cycle subsequent the at least one underfill condition based on a first amount of water and a first total amount of additional water. Rather, in contrast to the present invention, Gadini describes storing a predetermined amount of water initially required to fill components of a washing machine and storing a second water quantity corresponding to the same wash cycle to which the predetermined amount of water initially required corresponds, Whipple describes sensing cavitation in a pump motor and controlling a valve to supply an amount of additional water to a dishwasher to reduce the cavitation, Warren describes a capillary tube having a first end coupled to a water outlet of a valve and having a tip portion within a cup-shaped body portion of a water reservoir such that a quiescent reservoir of water is formed within the body portion, and Mirdadian describes a flowmeter that generates an electrical square wave pulse representative of the passage of a known incremental volume of fluid through a flowline.

Accordingly, for at least the reasons set forth above, Claim 14 is respectfully submitted to be patentable over Gadini in view of Whipple, Warren, and Mirdadian.

Claims 15-20 depend from independent Claim 14. When the recitations of Claims 15-20 are considered in combination with the recitations of Claim 14, Applicants submit that Claims 15-20 likewise are patentable over Gadini in view of Whipple, Warren, and Mirdadian.

For at least reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 11-20 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Respectfully submitted,

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